

A New *Bibio* from the Sierra Mountains, California, and a New *Plecia* from Malaya (Diptera: Bibionidae)¹

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Two new species of bibionids are on hand which need names so that they may be discussed in other publications. The new *Bibio* from the high Sierras of California has been received from Dr. A. T. McClay of the University of California at Davis. This species will be treated in a CALIFORNIA INSECT SURVEY BULLETIN on the family Bibionidae, which is now in press. The new *Plecia* from Malaya was sent to me for determination by R. W. Crosskey, Commonwealth Institute of Entomology, London.

The drawings have been prepared by Mrs. Phyllis Habeck. I greatly appreciate this valuable assistance.

Bibio sierrae, new species (figs. 1, a-h)

This species is near *B. knowltoni* Hardy but is distinct. It is readily differentiated by having all black pile rather than yellow; the posterior veins concolorous with the wing membrane rather than brown; the r-m crossvein about one-half as long as the basal section of the radial sector rather than equal in length to the basal portion of Rs; the antennae distinctly thickened at the base of the flagellum rather than almost straight-sided; the spurs of the hind tibiae slender and sharp-pointed rather than with the outer spur blunt; the front of the female entirely polished black, not opaque; and with long black hair over the front of the female rather than with short, yellow pile.

A medium-sized, shining black-bodied species with predominantly rufous legs. The pile is entirely black.

Male. Head: The eyes are thickly pilose. The ocellar triangle is polished black and extends well above the eye margin. The antennae and palpi are entirely black. The flagellum is eight segmented and tapers gradually from the base to the apex (fig. 1, a). The last two segments of the palpi are about three times longer than wide (fig. 1, b). **Thorax:** Entirely polished black, lacking even a tinge of rufous on the humeral ridges or on the halteres. **Legs:** The coxae and

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trochanters are polished black. The bases of the tibiae, the narrow apices and bases of the femora, and the apical two or three segments of the tarsi are black; the legs are otherwise rufous except for an irregular arrangement of small black spots which extend down each posterodorsal surface of the hind tibiae (fig. 1, c). The inner spur of the front tibia is one-third to two-fifths as long as the outer spur (fig. 1, d). The apical spurs on the hind tibiae are slender and sharp-pointed. The hind femora and tibiae are moderately clavate, the femora are distinctly thicker than the tibiae. The hind basitarsi are about three times longer than wide and approximately equal in length to the next two tarsal segments. *Wings*: Almost entirely hyaline, infuscated in the costal cell beyond the humeral crossvein. The stigma is dark brown and is large and conspicuous. The costa ends slightly beyond the apex of Rs. The anterior veins are dark brown, the posterior veins are hyaline, concolorous with the wing membrane. *Abdomen*: Entirely shining black, slightly tapering posteriorly, broadest at segment two. The ninth tergum is about two times wider than long and has a moderate V-shaped concavity in the middle of the hind margin, this extends approximately half the length of the segment (fig. 1, e). The claspers are moderately long and slender (fig. 1, g).

Length: Body and wings, 6–6.25 mm.

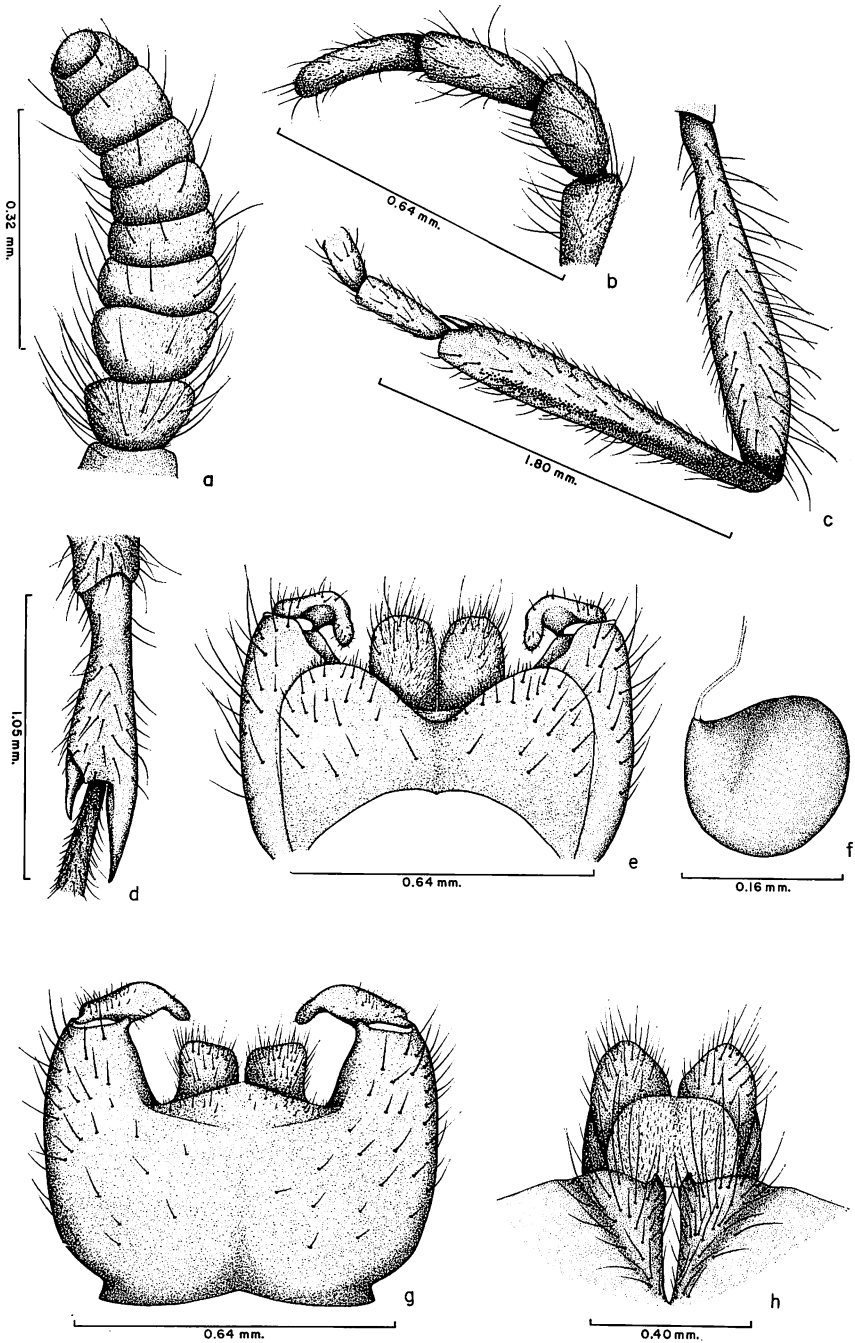
Female. The body and leg coloration, the characteristics of the antennae, palpi, and front tibiae are as in the male. The head is entirely smooth, polished black; as seen from direct dorsal view it is about as wide as long. The portion of the head behind the compound eyes is approximately equal in length to the eyes. The head is scarcely developed in front of the eye margin; this portion is about equal in length to the scape of the antenna. The hind legs are similar in most respects to the male; the tibiae and tarsi are just slightly more slender. The wings are entirely infuscated, slightly more brownish on the anterior portion and rather broad, about 2.6 times longer than wide. The cerci are oblong in shape. The egg guides are shaped as in figure 1, h. The inner posterior portion of each is slightly gibbose and densely setose. The spermathecae are oval in shape (fig. 1, f).

Length: Body, 5.4–5.7 mm.; wings, 6.2–6.8 mm.

Holotype male, allotype female, and thirteen paratypes, all females, from Dana Fork, Tuolumne River, Yosemite National Park, California, 10,000 ft. elevation, August 7, 1959 (D. W. Price).

The type, allotype, and seven paratypes are being returned to the University of California at Davis. The remainder of the paratypes are being deposited in the following collections: United States National Museum, Bernice P. Bishop Museum, and the University of Hawaii.

FIG. 1. *Bibio sierrae*, n.sp. a. antennae; b. last three segments of palpus; c. hind leg of male; d. front tibia of male; e. male genitalia, dorsal; f. spermatheca; g. male genitalia, ventral; h. female ovipositor, ventral.



***Plecia pagdeni*, new species (figs. 2, a-b)**

This species is closely related to *P. subvarians* Walker and runs to this species in couplet 34 of my key to the *Plecia* of the Pacific and Southeast Asia (PACIFIC SCIENCE 12(3):188, 1958). The genitalia, however, are quite different as shown in figures 2, b and 2, c. The submedian lobes on the posterior margin of the ninth sternum are broad, almost quadrate at apices, and are separated on the median margin by a distance equal to about half the width of one of the lobes. The claspers are slender, less than half the width of the submedian lobes of the sternum (fig. 2, b).

Male. Head: Ocellar tubercle prominent. Antennae entirely black, except for a tinge of rufous on the base of the first flagellar segment. Flagellum with seven segments. Rostrum inconspicuous, folded beneath the head. **Thorax:** Entirely orange to rufous. Halteres with yellow to rufous stems and brown to black knobs. Mesonotal furrows distinct. **Legs:** Dark brown to black, tinged with yellow at the bases of the femora. Rather densely black pilose. I see no distinctive features in the legs. Front basitarsus about one-half as long as the tibia. Hind basitarsus slightly over one-third as long as the tibia. **Wings:** Faintly and evenly tinged with brown. The stigma is not differentiated. Vein R2+3 enters

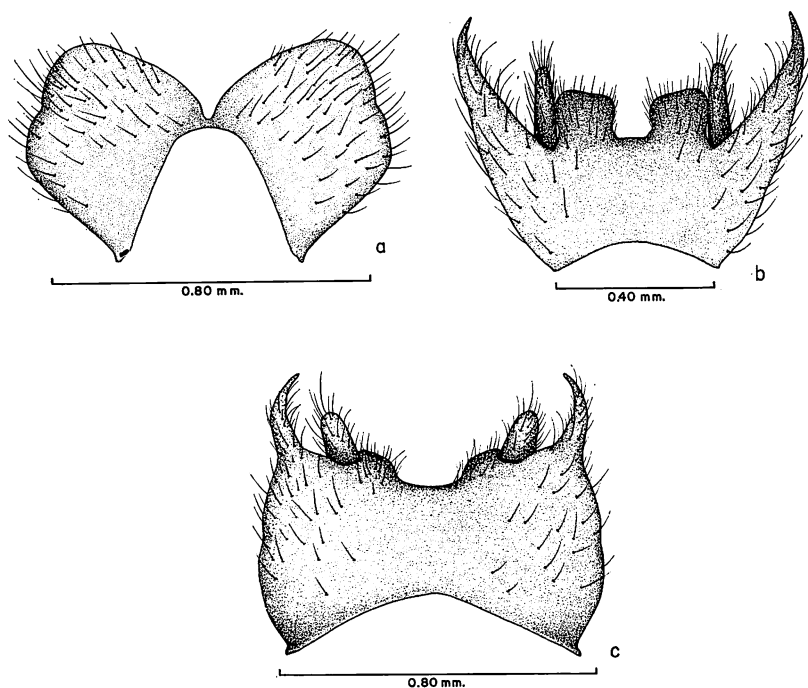


FIG. 2. *Plecia pagdeni*, n.sp. a, male genitalia, dorsal; b, male genitalia, ventral. *P. subvarians* Walker, c, male genitalia, ventral.

the costa at about a 50° angle to R4+5. *Abdomen*: Entirely black, densely covered with brown pollen and rather densely black pilose. The ninth tergum has a deep V-shaped concavity on the posterior margin and a U-shaped concavity on the anterior margin, these almost completely bisect the segment (fig. 2, a). The posterior lateral margins of the ninth sternum are developed into slender, sharp-pointed lobes which extend well beyond the apices of the tergum. A pair of broad, flat-topped submedian lobes are also present on the posterior margin, these are at least twice as wide as the slender claspers (fig. 2, b).

Length: Body, 4.3–4.5 mm.; wings, 6.2–6.4 mm.

Holotype male and six male paratypes from Sungei, Penang Hills, Malaya, Sept. 9, 1957 (H. T. Pagden).

The type and three paratypes have been returned to the Commonwealth Institute of Entomology, London. Two paratypes have been retained in the University of Hawaii collection and one has been deposited in the United States National Museum collection.